PN-ACN-977

EFFICIENCY OF TARGETED FOOD PROGRAMS:

AN INVESTIGATION OF THE VGD AND RD PROGRAMS

CARLO DEL NINNO

JULY 2000

FMRSP Working Paper No. 3

FMRSP Bangladesh
Food Management & Research Support Project
Ministry of Food, Government of the People's Republic of Bangladesh

International Food Policy Research Institute

This work was funded by the United States Agency for International Development (USAID)

EFFICIENCY OF TARGETED FOOD PROGRAMS:

AN INVESTIGATION OF THE VGD AND RD PROGRAMS

CARLO DEL NINNO *

JULY 2000

FMRSP Working Paper No. 3

FMRSP Bangladesh
Food Management & Research Support Project
Ministry of Food, Government of the People's Republic of Bangladesh

International Food Policy Research Institute

This work was funded by the United States Agency for International Development (USAID)
Contract Number: 388-C-00-97-00028-00

---

* Consumption Economist / Human Resource Coordinator, FMRSP and Research Fellow, IFPRI

The views expressed in this report are those of the author and do not necessarily reflect the official position of the Government of Bangladesh or USAID.

LIST OF ABBREVIATIONS

BIDS	Bangladesh Institute of Development Studies
BWDB	Bangladesh Water Development Board
DC	Deputy Commissioner
DRRO	District Relief and Rehabilitation Officer
FFE	Food For Education
FFW	Food For Work
FMRSP	Food Management and Research Support Project
GO	Government Order
GOB	Government of Bangladesh
HKI	Helen Keller Institute
IFADEP	Integrated Food-Assisted Development Project
IFPRI	International Food Policy Research Institute
LGED	Local Government Engineering Department
LSD	Local Storage Depot
MOWCA	Ministry of Women and Children Affairs
MT	Metric Ton
PIC	Project Implementation Committee
PIO	Project Implementation Officer
RD	Rural Development
RMP	Rural Maintenance Program
RRD	Relief and Rehabilitation Directorate
TNO	Thana Nirbahi Officer
UP	Union Parishad
VGD	Vulnerable Group Development
WAD	Women's Affairs Directorate
WFP	World Food Program

ACKNOWLEDGEMENTS

I wish to thank several people that help me to prepare this report: Dr. Omar Haider Chowdhury who provided many suggestions and comments throughout this investigations, Dr. Paul Dorosh who gave helpful comments and suggestions, Nafisa Anjum who provided invaluable research assistance, Abu Bakar Siddiq who organized and analyzed the data, Shahjahan Mia who coordinated the field work, the interviewers Praidip Kumar Saha, A.W. Shamsul Arefin, Shandha Rani Ghosh, Nurun Nahar Siddiqua, Rowshan Nessa Hoque, and last all the people that we interviewed and provided the material used in this report. I am also thankful to Wajid Hasan Shah who did an excellent job in editing the report and to Abdullah-Al-Amin and Md. Samsuddin Sumon for their secretarial support.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES AND BOXES

EXECUTIVE SUMMARY

In this article, we report the results of an investigation aimed at analyzing the efficiency of two large targeted food programs in Bangladesh (the VGD and the RD programs, of the World Food Program) in increasing the income and the consumption of grain of the intended beneficiaries. The analysis for this investigation included a series of activities including analyses of current documents, evaluations and reports; structured interviews with government officials, members of the selection committees, government officials and other implementing agents; group interviews with beneficiaries; and finally structured interviews of beneficiaries using short questionnaires.

The fieldwork was carried out in March-April, 1998. The analysis of the VGD was carried out in 10 Union Parishads (UPs) of 5 Thanas in 4 districts. The analysis of the RD program was done at five sites of different Thanas. Therefore, results need to be interpreted with care since they cannot be statistically representative of this programs in Bangladesh. Nevertheless, the findings can be regarded as being indicative and the methodology can be used for pursuing further, more in-depth investigations in the future.

We found that these programs are not efficient in delivering food transfers, since the difference between the amount of resources allocated (in cash and kind) and the amount of resources (in cash or kind) actually received, referred here as leakage, is positive and sizable. Nevertheless, leakages in the RD program are lower than in the now defunct rationing program, and are even lower in the VGD program. In fact, in the VGD program approximately 94 percent of the food is received by poor women, even though they are not all intended beneficiaries. Still, efforts should be made to reduce leakages and increase the efficiency of this program.

In the RD program, instead, leakages are larger. They are between 16 and 26 percent and are allocated among officials, administrators and local contractors. To reduce the amount of leakages, more efforts should be concentrated on the pre-work and post-

work measurements and payments should be made only for the amount of work actually done. Furthermore, the amount of resources allocated to a project should be sufficient to allow completion of the work, given the working conditions and the wage rates prevailing in the labor market and value of the grain in the market. Ultimately, the real challenge is to decide where the projects should be located and the resources they should receive. As long as projects are allocated to areas that have a higher rate of unemployment during the dry season and require more infrastructure, it will be cheaper to build the infrastructure and it will be possible to employ more workers at a lower wage rate using the same amount of resources.

1. INTRODUCTION

Direct targeted transfers and public works programs are safety nets measures that have been used in Bangladesh for the past 25 years. These are programs aimed at supporting the income and consumption of the most vulnerable groups in society and they are designed to protect a person or household against chronic poverty and transient poverty (Subbarao, et. al., 1997). Chronic poverty arises from the chronic inability (due to mental/physical disability, prolonged illness or old age) to work and earn, while a decline in the capacity to work and earn results in transient poverty. This decline can be due to economic shocks, poor harvests or even the death of a bread-earner.

In Bangladesh, there are several targeted food distribution programs aimed at increasing the income and the level of food consumption of beneficiaries, financed by food aid provided mainly in the form of wheat by various donor agencies. A good example of a targeting program in Bangladesh in which the beneficiaries are directly identified is the Vulnerable Group Development (VGD) program. VGD beneficiaries are poor women who are selected directly by program administrators; they receive an income subsidy in the form of grain. While this method allows for the needy to be chosen as beneficiaries, the involvement of officials in the selection process leaves the scope for less than efficient targeting.

Public works in Bangladesh are self-targeting programs that have been widely used to fight poverty by providing low-wage work, in cash, kind or a combination of the two, to those who need it. These programs are self-targeting because the beneficiaries select themselves into the programs. The wage rate is set below average so that only the needy would seek employment in such a program. However, some poor, needy people (such as the aged, infirm and physically handicapped) may be screened out, along with the non-poor.

Such programs generally reduce poverty in two immediate ways -- by providing paid work to poor people and by generating infrastructure which can increase access of poor people to employment opportunities (Ravallion, 1998). Public works programs can help stabilize seasonal fluctuations in income generation and employment in rural areas dependent on agriculture (Deolalikar 1995, Braun, Teklu and Webb, 1992). Such programs can help households smooth their consumption and income by being implemented during seasons of low labor demand. Effective programs can play an important role in reducing hunger and discouraging the sale of productive assets for mitigating basic needs (Adato et. al., 1999). The Rural Development (RD) program is a self-targeting public works program in Bangladesh that provides employment remunerated with grain and cash for the poor in rural areas.

Targeted programs are generally considered to be effective in transferring benefits to the needy and reducing leakage of benefits to the non-needy, provided that the costs associated with targeting are not very high. They are also thought to be more cost-effective in transferring income to the needy than untargeted programs (Ahmed et. al., 1998). Therefore, we expect these programs to be efficient in the delivery of the transfer. In this paper, we report the results of an investigation aimed at analyzing the effectiveness of these two large targeted food programs in increasing the income and the consumption of grain of the intended beneficiaries.

The problems various programs face which compromise effective food aid delivery vary substantially from one program to another. We have limited our investigation to the programs sponsored and carried out by the World Food Program (WFP), which include the VGD and the road components of the RD program, in this report. However, we believe this will provide meaningful insight into the problems related to the delivery system of similar programs.

We looked at three specific issues for carrying out this analysis. First, we analyzed the efficiency: are these programs efficient in delivering the resources available

to the intended beneficiaries? Is it possible that funds are diverted from the intended beneficiaries and the value of resources received is less than sanctioned? We refer to this issue as the *efficiency of food delivery* and we calculate the loss of efficiency by measuring the amount of funds not available. More precisely, we refer to the difference between the amount of resources (in cash and kind) allocated for and reportedly paid to program participants and the amount of resources (in cash or kind) that they had actually received. This difference is usually referred to as *leakage* in existing literature. Likewise, we reserve the term *leakage* in this paper for the diversion of funds that reduces the value of the resources received by program participants.

We then researched whether program recipients receive grain as intended, and to what extent. To evaluate this aspect of the program, we analyzed the *food transfer ratio*, defined as the value of grain received in kind as a share of grain allocated for payment to program participants.

Finally, we tried to find out whether the households who receive grain sell it instead of consuming it. To look at this issue we analyzed the *food consumption ratio* as the share of food actually consumed out of the total value of grain received by program participants.

We focused largely on the effectiveness of food delivery (leakage) and the food consumption ratio for the VGD program and on the effectiveness of food delivery (leakage) and the food transfer ratio for the RD program. Our intent was to look at the fund delivery system in each of the programs and analyze possible sources of and identify the necessary steps to check the inefficiencies. For example, in the analysis of VGD, we also analyzed the issues of card allocation and beneficiary selection.

We define system loss as the resources made available to the project and delivered to the local storage depot (LSD) that do not reach the intended beneficiaries. For the food for work (FFW) programs, foodgrain is delivered to the LSD for making payments to beneficiaries, workers, team leaders and supervisors and for financing transport costs

from the LSD. From there the food is transported to the project site where it is supposed to be distributed to the workers according to the wage rate stipulated in the project documents. Actual losses include transport, storage, handling and other indirect costs associated with delivering the food from the port to the beneficiaries of a program. Identifying leakage in the form of these delivery costs is an important objective in its own right. However, we are presently interested only in quantifying the resources diverted from the targeted beneficiaries of a particular project from the project site.

This investigation was carried out only in a few locations. Therefore, we have to be careful about interpreting the results. In other words, we cannot supply statistically significant estimates of the efficiencies of the system. Nevertheless, the findings can be regarded as being indicative and the methodology can be used for pursuing further, more in-depth investigations in the future.

OBJECTIVES OF THE INVESTIGATION

The main purpose of this study is threefold. First, we would like to have a general idea of the extent of the inefficiencies existing in these two types of targeted programs. Second, we want to test a methodology that can be used to analyze them. Third, we would like to define possible monitoring mechanisms that could be implemented for improving the effectiveness of these targeted food programs.

We carried out a series of activities in this investigation. These included:

1. An analysis of current documents, evaluations and reports
2. A series of structured interviews with the members of the selection committees and other implementing agents
3. Group interviews of beneficiaries and control groups
4. Structured interviews with beneficiaries using a short questionnaire.

The fieldwork and data collection for this analysis was carried out in a few locations during March-April, 1998. The fieldwork for the analysis of the VGD programs

was carried out in 10 Union Parishads (UPs) of 5 Thanas in 4 districts. The analysis of the RD program has been done at five sites of different Thanas.

A series of interviews were conducted to understand the process of food grain delivery in the field. The list of the people interviewed include:

Government officials involved with selecting VGD cardholders

Government institutions working with the design and supervision of RD work

Food distribution operators and LSDs workers

Officials in charge of the implementation of the program in the field for both RD and VGD

The conducted group interviews included:

a) VGD beneficiaries
b) A control group of women who possess the same socioeconomic characteristics as VGD beneficiaries, but are not included in the program
c) Workers participating in the RD programs.

Different questionnaires were administered to the three groups. The questionnaire administered to women participating in the VGD program covered the VGD selection process, their participation in the program and a detailed allocation of the grain they received. A total of 80 questionnaires were completed.

The Helen Keller Institute (HKI) administered a more detailed questionnaire for VGD beneficiaries and the control group. Their questionnaire included more detailed information about the socioeconomic characteristics of the women. In addition, it included information about their health status and their consumption patterns. Their sample size included a total of 440 women participating in the VGD program, 400 women in the Rural Maintenance Program (RMP) program and 520 women from the control group.

A different questionnaire was designed for the workers and Sardars participating in the RD projects. A Sardar is a leader of a work group. This questionnaire included a

set of questions on the type of work performed, the wage rate received and the allocation of the grain received as form of payment.

ORGANIZATION OF THE REPORT

The two programs analyzed are very different from each other. For this reason, the specific details of the methodology adopted to carry out the analysis have been reported in the respective sections of the paper, along with a brief conclusion. The last section contains a brief conclusion and a set of findings and recommendations for improving the effectiveness of the program. Summaries of field reports and copies of the questionnaires administered are reported in the appendices.

2. ANALYSIS OF THE VGD PROGRAM

The Vulnerable Group Development (VGD) Program is a national targeted food aid program aimed at improving the lives of the poorest and most disadvantaged women in rural Bangladesh. It started in 1975 as a relief program. Throughout the years it has evolved into a program that provides training and saving opportunities that can have a lasting impact on the lives of program participants. Every beneficiary is on the program for 18 months and receives 30 kg of wheat (or a combination of wheat and rice) each month, in addition to some cash savings (deposits are made in a bank, which beneficiaries can access at the end of the program) and training. The actual training components vary as different contractors implement the projects.

In the 1998/99 cycle, which started in January, 1998, a total of 450,000 women were scheduled to participate into the program. This was a moderate increase from the 436,480 women who had participated in the 1997/98 cycle for which the total allocation of grain was 243,000 Metric Tons (MT).

THE CARD ALLOCATION PROCESS

There were quite a few changes in the implementation of the VGD program in the 1997/98 cycle. The responsibility of central planning of the VGD projects and the distribution of resources was assigned to the Ministry of Women and Children Affairs (MOWCA). MOWCA is also responsible for preparing the Government Order (GO) for the allocation of cards and the food distribution. The GO is issued to the Relief and Rehabilitation Directorate (RRD). The District Relief and Rehabilitation Officer (DRRO) is responsible for District level coordination for the implementation of the VGD program under the instruction of the Deputy Commissioner (DC) of the District.

The DC is the chairperson of the District Coordination Committee (DCC), while the DRRO is its member secretary. In turn, the DCC transmits the allocation order to the

Thana Nirbahi Officer (TNO), who implements the program in the field, while the executive responsibility remains with the Thana Project Implementation Officer (PIO). The PIO works in collaboration with the Thana Women's Affairs Officer in the 136 Thanas where there is a Women's Affairs Directorate (WAD). RRD is in overall charge of conducting he program in the 325 Thanas that do not have a WAD.

Allocation of Cards to Thanas and to UPs

The number of cards allocated to each of the 461 Thanas was determined by WFP according to the food insecurity and vulnerability map, which was prepared by WFP in collaboration with the Planning Commission. There are a few exceptions to the set criteria. For example, Thanas that had special development programs received more cards. The allocation of cards to each UP was made according its vulnerability and population.

Table 1 — VGD Cards Allocated for the 1998/99 Cycle

Poverty Level	No. of Thanas	No. of UPs	No. of Cards	Average No. of Cards/UP	Percentage
Very high	114	1,050	187,911	179	41.76
High	116	1,111	146,595	132	32.58
Moderate	115	1,180	70,404	60	15.65
Low	116	1,068	45,090	42	10.02
Total	**461**	**4,409**	**450,000**	**102**	**100.00**

Source: WFP, 1997, 1998

It was also mentioned in the Government of Bangladesh guidelines that to facilitate the delivery of the development package, a minimum of five women should be selected from each village. The selection committee should give emphasis to the extremely poor villages. According to this rule, if it is not possible to cover all villages of a Union in the program in a given cycle, then the rest of the villages should be selected in the following cycle. The allocation of cards for the 1998/99 cycle is given in Table 1.

Selection of VGD women

In order to avoid any bias in the preparation of the list of participants for the VGD program, GOB requires the creation of the Union VGD Women's Selection Committee and a Thana VGD Implementation Committee. At first, the Union VGD selection committee prepares a list of women they have chosen as VGD beneficiaries. This list is submitted to the TNO. The Thana VGD Selection Committee then prepares the final list and sends it to the Chairperson of the District VGD Committee (who is the District Commissioner) and the RRD. A list of the people participating in these committees is reported in Appendix A.

The actual selection criteria for VGD beneficiaries is as follows (WFP VGD Report):

1. Preference is given to poor women who are household heads and women who are either widowed, divorced, separated, deserted or have a disabled husband.
2. The vulnerability of women is measured by the following factors:
    - Landlessness or ownership of less than 0.5 acres (50 decimals) of land
    - Irregular income or family income of less than Tk. 300 per month
    - Lack of reproductive assets
    - Women who are daily or casual laborers
3. Priority should be given to women who:
    - are physically fit
    - have the ability to develop their socioeconomic condition
    - are interested to work in groups
4. Women who have been selected once as a beneficiary of this project cannot be selected a second time.
5. Women who are already members of other organizations or other groups and enjoy the benefits of those projects are disqualified from being considered as beneficiaries of the VGD project.

ANALYSIS OF THE VGD PROGRAM

Following the general guideline outlined in the introduction, we identified several possible issues that might diminish the effectiveness of the VGD program. The first issue refers to the proper selection of beneficiaries. The second issue deals with the quantity

and quality of grain delivered to the beneficiaries, whereas the third concerns their utilization of grain.

The selection of beneficiaries is a very important issue in the VGD program. People who are not poor and people who do not meet the selection criteria are sometimes selected. There are cases of people being selected because they are related to the implementing officials. Some people had to pay a fee to be included in the program. In such cases, we can say that the selection process was not fair and objective.

To identify whether the selection of women into the program at the local level was fair, we checked if the women selected were eligible, if they had to pay any fee to obtain the card, and if they had sold the cards to the UP chairperson or other people. We first analyzed the allocation of cards among Thanas and UPs. We will not discuss this issues in detail, but it is noteworthy that the existing criteria tries to address the different needs of each Thana, while still maintaining a minimum allocation for every Thana. Moreover, the change in the number of cards that occurred at the time of the implementation of the 1998-99 cycle was very disruptive. WFP has changed the card allocation process to closely follow the poverty map in order to allot more cards to areas that have a larger population of poor people.

The second issue refers to the "efficiency of food delivery" and therefore with leakage. In the case of the VGD program, we defined leakage as the amount of grain sanctioned that has not actually been received by the beneficiaries. To estimate the amount of leakage, we tried to find out whether or not the participants had received the total amount of grain sanctioned for them. In cases where we found recipients who had received less than the allocated amount, we tried to identify what happens to the missing amount.

The last issue, referred to as the "food consumption ratio," deals with the allocation of the rations by participants. Do they have control over it or do they have to

share it with other women or people? Are they consuming it or selling it? Are they consuming more grain than before being inducted into the program?

To analyze these issues in detail, we carried out a series of structured interviews, focus group discussions and individual interviews with almost 200 women. The title and function of people included in the informal interviews conducted in the field are reported in Table 2.

Field surveys were carried out in five Thanas of four districts. We selected the same Thanas where HKI carried out their evaluation of the VGD program and RMP. Since we worked in only ten locations, we have to be careful about the interpretation of the results. Thus, the variable means from the 10 sites cannot be interpreted as being statistically robust, but only indicative of the existing situation. The names of the Thanas included in this preliminary analysis are listed in Table 3. In each of the Thanas, we selected two UPs, except in Jamalpur District, where we selected one UP in Jamalpur Sadar and three UPs in Melandaha.

The WFP/GOB poverty map classifies every Thana as being in one of four categories with respect its level of poverty: four indicates a very high level of poverty, three denotes a high level, two indicates a moderate level of poverty and one denotes a low level.

EFFECTIVENESS OF THE VGD PROGRAM

The selection of VGD cardholders and the delivery of the grain are very sensitive issues. We had to be careful in the interview process in order to make sure that the women we interviewed had not been influenced by the local officials who had allocated the cards. For example, when we employed a chawkidar (a person who helps coordinate the distribution) to locate the women participating in the program, we only asked him to identify the house, not accompany us inside. The results of the interviews and the group discussions are summarized in Table A1 and the detailed report is in the Appendix.

Table 2 — List of Respondents for Analysis of the VGD Program

Respondent	Function
At the Thana level	
Thana Nirbahi Officer (TNO)	The high level official who supervises the implementation of projects
Project Implementation Officer (PIO) in charge of relief operations	The executive responsible for implementing subprojects
Women's Affairs Officer (WAO)	The WAO jointly shares the responsibility (with the PIO) of implementing the VGD program (Present in 136 of 461 Thanas)
NGO workers at the Thana Level	Responsible for training
Tag Officers* (one for each Union)	Official in charge of relief operations for a specific Union
Thana Food Officer	The Thana Controller of Food, who issues the delivery order of food for the Union VGD Committee to the officer-in-charge of the Local Supply Depot (LSD)
At the Union level:	
Union Parishad Chairperson	Responsible for primary selection of the VGD beneficiaries and the distribution of grain
Union Parishad Secretary	Member secretary of the Union VGD Committee
Union Parishad Member	Responsible for disbursing the grain

Source: GOB Documents

Note: * Any one of several officers (Thana Agriculture Officer, Thana Livestock Officer, Thana Fisheries Officer, Thana Health and Family welfare Officer, Thana Education Officer, Thana Food Officer, Thana Cooperatives Officer, Thana Social Welfare Officer, Thana Village Development Officer, etc.) may be assigned as the Tag Officer at the Thana level.

Table 3 — Organization of Field Work for VGD

District	Thana	Thana Population	No of Unions	Level of Poverty	Cards to be allocated per Union according to WFP Poverty Map	Total VGD Cards in the thana	Name of the Union Parishad	Union Parishad Population	Cards allocated per UP		VGD question-aires	Interviews Completed with Officials	
									Now	Before		Thana	Union
Jamalpur	Jamalpur Sadar	501,924	15	4	250	3750	Sarifpur	38,424	333	344	10	1	2
	Melandaha	262,478	10	3	230	2300	Mahmudpur	31,408	253	362	10	1	1
							Adra	23,264	191	275	10		1
							Nayanagar	34,843	316	456	10		1
Nilphamari	Nilphamari Sadar	306,051	15	3	230	3450	Chawra Bargacha	17,927	224	124	10	1	1
							Sonari	22,274	238	138	10	-	1
Barishal	Goirnodi	171,602	7	1	150	1050	Khanjapur	25,075	153	370	-	1	1
							Barthi	31,245	191	453	-		1
Madaripur	Madaripur	307,822	15	1	150	2250	Ghatmajhi	24,478	190	400	10	2	2
							Jhauti	20,527	185	400	10		1
Total		**1,549,877**	**62**		**1,010**	**12,800**			**2,274**	**3,322**	**80**	**6**	**8**

Source: GOB Documents.

The Selection Process

The results from our discussion and our analyses indicate that once the cards were allocated at the local (Union) level, the selection process works fairly well. The allocation of the number of cards to each Thana, however, is an important issue. In fact, the number of cards allocated is seen very much as the resources available to alleviate poverty when used in combination with other programs, like the Food For Education (FFE) program, and a way for the UP chairperson to increase their popularity (see Box 1). It is not surprising that there is discontent in Thanas where the number of cards has been reduced in the most recent cycle.

Box 1 — VGD as a Poverty Alleviation Instrument.

When we discussed the issue of the reduction in the number of cards in one of the Thana headquarters, we had an interesting discussion with a newly elected UP chairperson. He said that he was not in as much trouble as other chairpersons because he had the FFE program aside from VGD in his UP and he could use both as safety net instruments. Therefore, he could switch a person from one program to another and still be able to take care of the people who most needed the help. Later, when we went to one of the villages of this UP, we found a woman who matched the aforementioned situation. She was a young widow, about 30 years old, with two young children in primary school. She lived on charity from relatives and neighbors. She had been on FFE because her two children go to school and now she was going to be included in the VGD program.

The actual selection of beneficiaries at the local level is apparently not very controversial. We found that 93 percent of the participants in our sample think that the selection process is fair, whereas 20 percent of the non-participants think that is not, generally because they have been excluded from the program. In general, the consensus is that poor women are selected for and participate in the program even though there are a lot of other poor women who do not get selected.

The age of the participant appears to be a factor. Officials recognize the need for older women to receive assistance, yet the guidelines of the selection process do not

encourage their selection as they are probably not able to participate in the training and may not benefit from it. In our sample we found 26 percent of VGD women are over 50 year of age, compared to only 12 percent in the control group (see Table 4).

Table 4 — Distribution of Respondents by Age of Our Sample

Age group of the respondents	Non-participants (percent)	Participants (percent)	All (percent)
15-39	15.66	9.53	12.58
30-39	44.58	29.76	37.13
40-49	27.71	34.52	31.14
50-59	10.84	17.86	14.37
60+	1.21	8.33	4.79
Total	100	100	100
Number	83	84	167

Source: VGD Investigation, FMRSP-IFPRI, Feb-May, 1998.

The UP chairperson and the selection committee were involved in the selection process in the majority of the cases (68 percent in our sample and 75 percent in the HKI sample). There is an exception in one Thana, where it was reported that political leaders were involved in the selection and distribution process. Table 5 further describes the roles of selectors. Moreover, the HKI survey (1998) found that 8 percent of the women paid between Tk. 1 to Tk. 10 to participate in the program.

In our survey, we found that 16 percent of the women shared cards, the same percentage as the HKI survey had revealed. This was, however, higher than in the IFADEP-1 project, where only eight percent of the women share cards. The percentage of shared grain was seven percent in the IFPRI survey and three percent in the HKI survey.

Table 5 — Who Decides the Allocation of Cards

Name of the Thana	Who decides the allocation of cards (percent)				Total	
	UP Chairperson	UP selection committee	UP Secretary	Local elite/ political leaders	Percent	Number
Jamalpur	7.69	7.69	7.69	76.92	100	13
Melandaha	3.33	56.67	0.00	40.00	100	29
Nilphamari	33.33	61.9	4.76	0.00	100	21
Madaripur	10.00	90.00	0.00	0.00	100	10
Total	**13.51**	**54.05**	**2.7**	**29.73**	**100**	**73**

Source: VGD Investigation, FMRSP-IFPRI, Feb-May, 1998.

Delivery of Grain

In the discussions we had with the TNO and other officials at the Thana level, we found that they were very concerned about the delivery of grain and especially about the amount delivered from the LSD. They mentioned this as the only source of leakage.

Throughout our interview period, grain had been delivered twice. The delivery system was not very well organized and the women still were not aware as to exactly how much grain they were supposed to receive. The majority of women received wheat and only a few women received a combination of rice and wheat. From the result of the survey, we found that 12.5 percent of the women received rice the first month and all participants received only wheat the second month (Table 6). On average, women received between 25 and 26 kg of grain a month.

The amount of food grain received by recipients did not vary much by Thana (Table 7). The quality of the grain was not always good. Almost 70 percent of the women complained about the presence of insecticide (which they could identify from the smell) in the grain received the first month. It may be mentioned that insecticide is often used in storage depots. Over 75 percent of the women thought that the quality of the grain was good in the second month.

Table 6 — Amount and Type of Grain Received by Month

Type of Grain Received	1st month (February, 1998)		2nd month (March, 1998)	
	Average Amount (kg)	Number of Recipients	Average Amount (kg)	Number of Recipients
Wheat only	24.96	63	26.05	73
Both Rice & Wheat		9		
Portion of Wheat	12.67			
Portion of Rice	11.44			
Total	**24.11**		**26.05**	
Number		**72**		**73**

Source: VGD Investigation, FMRSP-IFPRI, Feb-May, 1998.

Table 7 — Amount of Grain Received by Thana per Month

Name of the Thana	1st Month (February, 1998)		2nd Month (March, 1998)	
	Average Amount (kg)	Number of Recipients	Average Amount (kg)	Number of Recipients
Jamalpur	24.31	30	25.00	10
Melandaha	24.62	13	26.32	29
Nilphamari	25.90	20	25.99	13
Madaripur	.	.	26.80	21
Total	**24.94**	**63**	**26.03**	**73**

Source: VGD Investigation, FMRSP-IFPRI, Feb-May, 1998.

In our sample of 10 UPs in 5 Thanas, it appears that women received 85 percent of the grain sanctioned for them. What happened to the remaining 15 percent? About six percent of the total, (from a minimum of four to a maximum of nine percent per Thana) went to the LSD. A small percentage was used for paying chawkidars to help with the distribution process and the remaining nine percent was distributed in small quantities to other women who came to the distribution center at the time of delivery.

Some officials had suggestions on how to reduce the amount of this leakage. They asked for more supervision and suggested the use of military personnel at the time of grain delivery. They even suggested providing a 30 kg bag of grain to the women sealed with a WFP stamp. The women also wanted to receive their total allotment and

mentioned that if a relative was present with them at the time of delivery, then they received their full allotment of wheat.

Consumption of Wheat

Most of the women interviewed did not consume very much wheat prior to being on the program. They consumed only 4.9 kg of wheat per family per month before they started the program. Our natural question was what they were going to do with almost 30 kg of wheat. In Table 8, we report the percentage of women allocating wheat to different uses along with the percentage of wheat allocated to each use divided by the total amount of wheat they had received.

We found that about 60 percent of the women sold all or part of the grain they had received. The total amount of grain sold comes to be approximately 50 percent of the total of the amount of grain they receive (59 percent the first month and 40 percent the second). Similarly, 60 percent of the women consumed the grain at home. We noticed a marked difference in the allocation of grain between the first and second months. While only 21 percent of the women stored any wheat after the first month, 87 percent of them stored some wheat during the second month. In terms of the quantity of grain involved, the amount of wheat consumed and stored the first month was 29 and 0 percent respectively and 29 and 19 percent the second month.

The results of the VGD survey were confirmed by the information gathered during the group interviews. Apparently the quality of the grain distributed was bad the first month. This provided an added incentive for selling the grain and using the cash earned from selling the grain for other purposes, like purchasing food (rice), opening a bank account, paying loans, buying chicks and so on. The quality of the wheat was much better the second month. As a result, the amount of wheat consumed or stored for future consumption increased. It is also worth noticing that in the few cases that cardholders received rice, almost all the amount received was consumed and none was sold.

Table 8 — Allocation of Grain to Different Uses by Type and Month of Delivery

Allocation of the amount received	1st Month (February, 1998)				2nd Month (March, 1998)			
	Rice		Wheat		Wheat only		Wheat	
	Quantity	Women Involved	Quantity	Women Involved	Quantity	Women Involved	Quantity	Women Involved
	(Percentages)							
Amount shared	11.65	33.33	21.93	65.05	7.04	17.95	6.65	16.03
Amount for official	0.00	0.00	0.00	0.00	0.64	3.85	2.08	9.96
Consumed at home	85.44	88.89	73.68	74.63	29.39	60.90	29.24	60.07
Used for Animals	0.00	0.00	0.00	0.00	1.15	17.95	0.88	7.83
Amount for friends	2.91	11.11	4.39	23.21	2.42	12.82	2.01	14.73
Amount sold	0.00	0.00	0.00	0.00	59.04	63.46	40.47	57.36
Amount stocked	0.00	0.00	0.00	0.00	0.32	21.15	18.67	87.35
Total	100.00		100.00		100.00		100.00	
Total Amount	11.44		12.67		24.90		26.05	
Number	9		9		63		73	

Source: VGD Investigation, FMRSP-IFPRI, Feb-May, 1998.
Note: The total values reported here include all households.

The rest of the grain received by the women was allocated to a variety of purposes. About 17 percent of the women had to "share" grain with other people while receiving the grain (amounting to about 7 percent of the total grain they had received). Some 13 percent of recipients gave some grain to family and friends (which is 2 percent of the total allocation), while some small amounts went to officials as well.

Even though a large quantity of grain was sold, given away or stored, some was consumed at home (Table 9). In fact, the total consumption of grain increased about 5 percent and went from 43.4 kg to 45.7 kg of grain a month per household, which corresponds to 374 grams of grain per person per capita. The amount of wheat consumed increased from 4.4 kg to 16.5 kg a month, while the quantity of rice consumed decreased from 39.1 kg to 29.2 kg.

Table 9 — Amount of Grain Consumed by Participants Before and After Being Inducted into the Program

	Monthly Consumption (kg)			Per Capita Daily Grain Consumption (grams)	Number
	Rice	Wheat	Total		
BeforeVGD	39.07	4.37	43.44	355.77	84
After VGD	29.18	16.49	45.67	374.04	84

Source: VGD Investigation, FMRSP-IFPRI, Feb-May, 1998.
Note: Assumes an average household size of 4.07 persons.
Before VGD describes consumption habit one month prior to being on the VGD program, whereas After VGD concerns habits two months into the program

CONCLUSIONS

Clearly, the VGD program, with only 450,000 participants, cannot by itself make a large impact in the alleviation of poverty in Bangladesh. Given the limited number of poor people who can participate in the program, the allocation of resources at the Thana level is a source of political conflict. Therefore, any evaluation of the allocation of resources at the local level has to be analyzed in combination with other poverty alleviation instruments since not all Thanas have the same need and have the same amount of resources available. On the other hand, the selection of women at the local level appears to be fair. Almost all the women participating in the program are worthy of the assistance. A few of them are reported to have paid some fees in order to receive VGD cards. The only issue is the type of women selected. Younger women are more likely to get more out of the training aspect of the program, while older women might be more in need of food assistance.

In our investigation, we did find that at least 15 percent of the grain allocated does not reach the intended beneficiaries (women who have official VGD cards). We have established that at least six percent is lost to the LSD. The rest of the amount that has not been accounted for apparently goes to other poor women who do not officially participate in the program. In addition, 16 percent of the women share cards with other people.

The VGD program appears to have had a positive impact on household grain consumption. Although poor women do not like to consume any staple other than rice, their consumption of rice declines as it is substituted by wheat. Further studies may be necessary to verify the impact of the grain received on the level of wheat and grain consumption.

Women participating in the program are very grateful. They expect to receive the amount of grain sanctioned for them and they have high expectations about the training and the savings opportunities. They are happy to receive wheat and they expect to receive good quality wheat, even though they would prefer to receive rice. Their major complaint was about the lack of jobs and other economic opportunities.

3. ANALYSIS OF THE RD PROGRAM

The Rural Development (RD) Project supports development activities benefiting the rural poor (WPF, 1998). This is a nationwide program providing approximately 200,000 MT of wheat per year for building public infrastructure and developing other natural resources. Distinct project activities are promoted in four different sectors. These are:

the water sector – for the rehabilitation of embankments and canals

the road sector - for the improvement of rural roads

the forestry sector – for planting trees and for creating assets for the poor

the fishery sector – for the development of water bodies to expand the fishery program (WFP, 1998)

We concentrated on the analysis of earth moving projects in the water and the road sectors in this report. These projects are implemented and supervised with the help of the Bangladesh Water Development Board (BWDB) under the Ministry of Water and the Local Government Engineering Department (LGED) under the Ministry of Local Government.

It is important to note that both WBDB and LGED also implement other similar projects in the water and the road sector that are sponsored by other government agencies and CARE (see Table 10).

Table 10 — Total FFW Projects Managed by LGED and BWDB in 1997/98

	WFP		CARE		GOB		TOTAL	
	No.	MT	No.	MT	No.	MT	No.	MT
LGED	375	36,800	326	12,439	1,100	25,000	1,801	74,239
BWDB	873	120,300	-	-	93	20,000	966	140,300
Total	1,248	157,100	326	12,439	1,193	45,000	2,767	214,539

Source: WFP, LGED, BWDB and CARE

Together, the water and the road projects in 1997/98 were allocated approximately 157,000 MT of wheat, which is more than 50 percent of the projects carried out by LGED and BWDB. They account for almost 30 percent of food aid for development projects (Table 11).

Table 11 — Allocation of WFP Wheat for RD Projects Between 1996 and 1998

Project Sector Implemented by		Water BWDB	Road LGED	Forestry Forestry	Fishery Fishery	Total
1996/7						
Wheat Allotment for the sector	(MT)	99,169	34,815	44,310	32,705	210,998
Percentage of allotment for the four activities	(%)	47.0	16.5	21.0	15.5	100.0
No. of Projects		214	320	695	350	1,579
Average project size in terms of wheat allocation	(MT)	463	109	64	93	
Person days required to complete the projects	Millions	13.76	4.58	11.55	11.19	41.08
Allocation per person per day	(kg)	7.21	7.60	3.84	2.92	
Persons per year*	No.	137,600	45,800	31,644	30,658	245,701
1997/8						
Wheat Allotment for the sector	(MT)	120,300	36,800	9,000	23,600	189,700
Percentage of allotment for the four activities	(%)	63.4	19.4	4.7	12.4	100.0
No. of Projects	No.	873	375	498	626	2,372
Average project size in terms of wheat allocation	(MT)	138	98	18	38	

Source: WFP and the author's calculations

Notes: *Assume that water and road work is seasonal and lasts for about 100 days between the *Aman* harvest and the onset of the monsoon, and the forestry and fishery projects last for about one year

ANALYSIS OF THE RD PROGRAM

The set of issues concerning the efficient delivery of resources in RD programs is different from that of the VGD program. Payment to workers is based on the amount of work done in the RD program, whereas VGD is a direct transfer program where the amount of resources allocated to the beneficiaries is fixed. Therefore, there should be a direct correspondence for RD projects between the quantity of earthwork required to complete the project, the amount of work done and the amount of foodgrain received by workers. Whenever there is any discrepancy between these figures, leakage occurs and there is a loss in efficiency. Besides looking at this issue, we also researched how payment to workers is actually made. In other words, we investigated whether workers

were paid according to the specifications of the project or mostly in cash. Finally, we briefly investigated the allocation of grain received by beneficiaries.

Earlier Analyses of Leakage

The problems discussed above are not new; several analyses on leakage have been conducted. The earliest study on leakage in Bangladesh based on the analysis of the results of a comprehensive survey of FFW projects was carried out jointly by the Bangladesh Institute of Development Studies (BIDS), Dhaka, and the International Food Policy Research Institute (IFPRI), Washington D.C., in 1982 (WFP, 1996). In a review of public rural works in Bangladesh, Hossain and Akash (1993) argued that most of the observations of the BIDS-IFPRI study were still relevant in the early 1990s. Information for the study was collected only on WFP-aided FFW projects. 31 project sites were randomly chosen from a total of 618 in such a manner that at least one site would be included from each of the then 20 districts in the country. Analyses on the management aspects road projects (Asaduzzaman and Huddleston, 1983), socio-economic background, productivity and wage rate of the workers (Chowdhury, 1983), engineering aspects (Nishat and Chowdhury, 1983) and employment, income and consumption (Osmani and Chowdhury, 1983) of beneficiaries of the road projects was carried out by generating necessary information through different components of the study.

Osmani and Chowdhury identified two broad sources of leakage in their study. The first came from the difference between the amount of payment that workers were supposed to receive and the amount they had actually received. The second comes from the difference between the amount of work that is supposed to be done and the amount of work reported to have been completed. In other words, underpayment to the workers and padding of the volume of work to be done were the two basic elements of leakage they had identified in the RD projects.

Characteristics of the workers and targeting. The survey finding shows that most of the workers (about 70 percent) were recruited by Sardars and labor contractors. Sardars were generally (55 percent) ignorant about the stipulated wage rate. There was clear evidence that the FFW workers belonged to the target group in the sense of coming from the poorest section of the community (Chowdhury, 1983). Migrant workers (those who lived temporarily away from home in order to work at the project site) were observed in only 6 out of 31 sites and at each of these sites the proportion of migrants was quite high (not less than 70 percent). In fact, migrant workers constituted 100 percent of the workers interviewed at Natore. On average, for all sites taken together, migrant workers accounted for about 15 percent of total FFW workers.

Working hours and productivity. Sampled FFW workers worked longer hours than the standard working day. They worked an average of nine hours a day. It is also noteworthy that workers worked for more than nine hours a day in five out of six projects sites where migrant workers were observed. The average productivity of an FFW worker was removing 3.31 m^3 of earth per day. On the other hand, the Information for Management Survey (Asaduzzaman and Huddleston, 1983), based on interviews carried out on seven categories of individuals, showed that the earth moving capacity of the workers ranged between 2.97 m^3 to 3.34 m^3 per day. However, our estimate of productivity (on an average 3.31 m^3 of earth removal per day) was higher than the daily rate of 1.98 m^3 used in official estimates for amount of employment created. Therefore, the actual number of working days of employment created is less than the official estimate would suggest. However, loss of employment and diversion of wheat could only occur through falsification of pre-work surveys and earthwork measurement and underpayment to workers as argued earlier.

Wage Payments. Payment in different media (cash and/or kind) was quite common. Generally cash payments were made on a daily wage rate basis rather than the amount of earthwork done. In some places, daily allowances were given which were adjusted later for the amount of earthwork done. Thus the problem of determining a

comparable wage rate for all the sites turned out to be a very complex exercise since the media as well as the terms and conditions of payment varied. To turn all the various media of payment into wheat equivalents, Asaduzzaman and Huddleston used local current prices of wheat and rice relevant to the survey period. If wages were paid on a daily basis, they used the estimates of labor productivity to convert them into wage rates. Average wage payments per m^3 turned out to be 1.39 kg of wheat, which varied from a low of 0.73 kg/m^3 to a high of 1.81 kg/m^3. These estimates were below the expected wage rate of 1.65 kg/m^3 for constructing roads/embankments. This rate includes the basic wage rate of 1.41 kg/m^3 plus additional factors such as lead, lift etc. called the allied factors. Wage entitlements inclusive of allied factors for BWDB executed FFW projects were calculated from the respective project pro forma of 18 out of 20 projects. Workers on an average received one-third (33 percent) less in wages than their entitlement.

Padding the volume of work completed. There are two principal mechanisms by which the reported volume of completed work may be padded (Asaduzzaman and Huddleston, 1983). The pre-work survey can be prepared to show a larger amount of earthwork to be accomplished than the project actually requires. Then the final measurement is made against the amount to be accomplished as shown in the pre-work survey, not against the physical condition of the project before work began. The amount by which reported volume of work completed is padded was estimated from information provided in the Engineering Survey (Nishat and Chowdhury, 1983). It was found that the shortfall in volume of work completed as compared to the amount claimed averaged around three to seven percent.

Estimate of Total Leakage. The 1982 study on WFP-aided FFW projects estimated leakage as the sum of underpayment to the workers and padding the volume of work not completed according to project design. The range of underpayment to workers varied between 21 and 26 percent and that due to padding the volume of work completed between 3 and 7 percent. Therefore, total leakage on these two counts ranged between 24

to 29 percent. There was no estimate of the padded volume of work as no pre-work survey of engineering aspects of the project was carried out.

The Current Leakage Situation

Most of the issues mentioned in the previous section are still relevant although efforts have been made to improve the control mechanisms used to monitor the amount of work done and reduce the amount of leakage.

The main source of leakage is the difference between the work that should be done and the actual payment made for the work done. This amount may be allocated to various people. In other words, these resources may be to used remunerate the people involved with the distribution of wheat and administering the project. Following this argument, we can distinguish between the way funds are acquired and the way they are allocated. The list of the sources of leakage is presented below:

1. Difference between the amount of work done and amount stipulated in the project documents
   - 1.1 Overestimate the necessary amount of work (quantity of earthwork) necessary for the project and the amount of work stipulated in the project documents
   - 1.2 Under-completion of the work required; sometimes the work is not completed yet is reported as having been completed (In some extreme cases, no work is done at all).
2. Over-reporting of the resources allocated to the workers
   - 2.1 There may be a difference between the payment made to the worker for the work done and the wage rate stipulated in the project documents
   - 2.2 The remuneration does not conform to the work norms
   - 2.3 The number of workers reported is larger than the actual number of people employed by the project.
3. Difference between wages paid in cash and market value of wages in kind; at some sites, wheat is sold and workers are paid in cash. If the market price is higher than the standard conversion rate stipulated by the program at the beginning of the project, program officials profit on the price difference.
4. Appropriation of left over funds (allocation of funds above the amount of resources necessary for the completion of the project).

Among the four main sources of leakage listed here, the first two mentioned above are the largest sources of leakage. It is important to note that according to the definition used, it is still possible that individual workers receive a wage higher than the amount stipulated in the contract. Where such phenomena occur, the amount allocated to the individual workers is usually compensated by over-reporting of the number of working days utilized on the project.

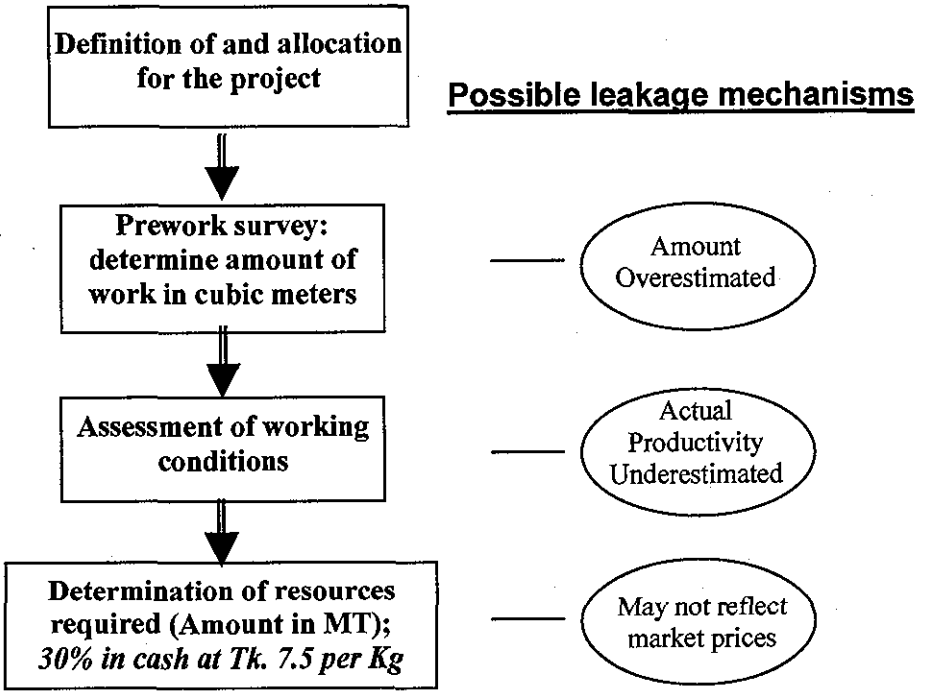
Funds diverted and not delivered to the intended beneficiaries are used in a variety of ways. Some possible allocations are listed below:

1. Compensation for LSD short delivery
2. Expenditure for approval of schemes (Payments to and entertainment of officials to facilitate the approval of one scheme instead of another)
3. Unforeseen project expenses
   - 3.1 Higher than anticipated project costs
   - 3.2 Land compensation
   - 3.3 Additional transportation and delivery costs.
4. Compensation for various engineers from local and central institutions (including LGED and BWDB officials).
5. Compensation for the Project Implementation Committee (PIC) Chairperson or other staff involved, including Sardars.

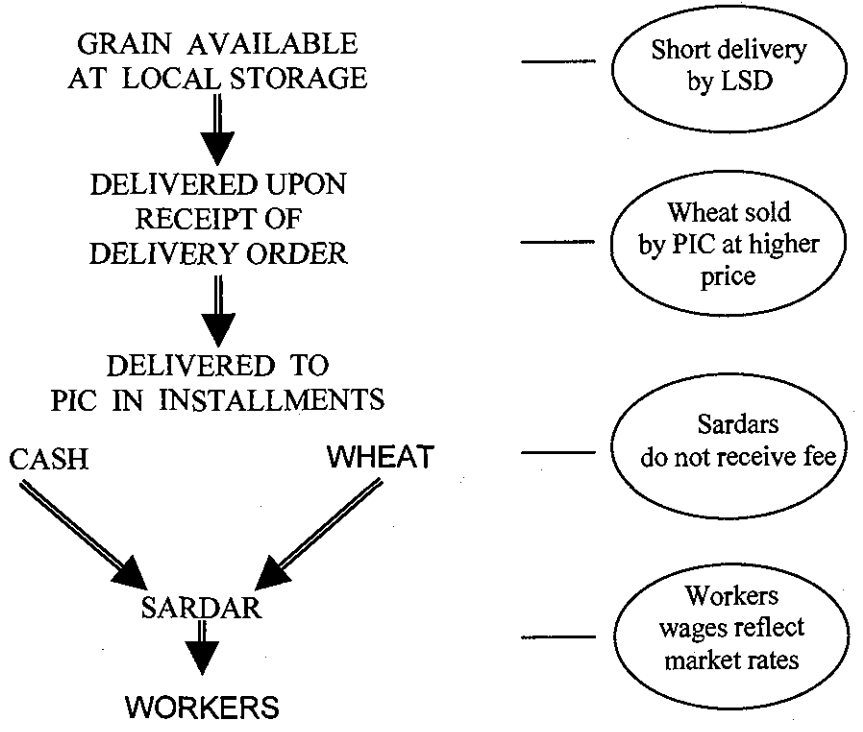
This list includes all the people who are involved with the implementation and monitoring of the RD project. The process is described graphically in Figure 1. We distinguish between two phases of the project in this flowchart: the determination of the amount of resources and the disbursement of the funds. We describe the actual steps of the process on the left side of the graph and the possible sources of leakage on the right side.

Figure 1 — The RD Implementation Process and Possible Leakage Mechanisms

Determination of the Amount of Resources



Disbursement of funds



Once the project has been approved, engineers from LGED and the Water Board, in collaboration with their local counterparts, perform the prework survey to assess the amount of work that needs to be done, using specific conditions and requirements and assuming a certain level of productivity.

The outcome of this process is the determination of resources available to the project. It is obvious that if the amount of work to be done or the productivity is overestimated, then there is scope for leakage and rent. Similarly, if the price of grain does not reflect market rates, then there is scope for leakage.

Once the grain is made available to the LSD and the Delivery Order (DO) has been issued by the Thana Engineer, the grain is delivered to the PIC upon the receipt of the progress report. This is a crucial step, when rent may be paid for the delivery of the DO and the delivery of grain.

The PIC Chairperson often makes arrangements with several Sardars on the method of payment and the wage rate. If the market price of grain is higher than the price of wheat stipulated in the project documents (Tk 7.5 in our case), project officials have an incentive to sell the grain in the market and pay the Sardars in cash. Note that because of all the transactions involved, it is not unusual for the PIC to hire an accountant to help him with the accounting.

The Sardar is responsible for paying the workers. He usually keeps track of the amount of work done and reimburses the laborers according to the number of days they have worked. Most of the times the Sardar is remunerated just like any other worker and does not receive any additional compensation.

At the end of the process, the workers receive their wages in wheat, cash or a combination of the two. If they receive payments in wheat, then they have the choice of selling or consuming it.

Estimating Current Leakage

In order to get an estimate of actual leakage, we compared the total amount of resources allocated with the total amount of resources disbursed. While there is only one source of information for the amount of resources allocated to the project, there are several sources of information that can be used to estimate the amount distributed to the workers. The total amount of resources allocated is equal to the total number of person days times the average wage rate paid and received. If we define the wage rate as **W** and the number of person days as **L**, then the total amount of resources allocated is equal to: $\mathbf{W_0}^*\mathbf{L_0}$.

On the other hand, the estimation of the total amount of resources allocated can be obtained in several ways. If we follow the same definition, then our task is to get alternative estimates of the wage rate paid and of the number of person days employed.

To get the information required to carry out the comparisons outlined above, we collected the following variables:

From project documents (LGED and BWDB)

a) Amount of work required = $\mathbf{ET_0}$, reported in cubic meters (m^3) of earthwork
b) Total resources allocated in wheat in kg (cash resources have been converted if necessary) = $\mathbf{WT_0} = \mathbf{W_0}^*\mathbf{L_0}$

From progress Report (LGED and BWDB)

a) Total work done = $\mathbf{ET_1}$
b) Amount disbursed = $\mathbf{WT_1}$
c) Total number of person days = $\mathbf{L_1}$
d) Wage rate paid

From PICs and Sardars

a) Number of groups
b) Average number of people working in a group
c) Average number of days worked
d) Average number of hours worked per day

e) Earthwork done = $\mathbf{ET_2}$
f) Amount disbursed = $\mathbf{WT_2}$
g) Total person days = $\mathbf{L_2}$
h) Wage rate paid

From Workers

a) Usual place of residence
b) Days worked
c) Hours worked per day
d) Amount of payment stipulated
e) Amount actually received in cash and kind = $\mathbf{W_3}$
f) Utilization of amount received

We obtained four alternative estimates of wage rates from the data by dividing the total amount of wheat allocated by the number of person days ($\mathbf{WT_i/ET_i}$), which we can compare with the wage rates reported by officials, Sardars and workers. These are:

- the implicit wage rate, $\mathbf{W_0}$
- the wage rate from the progress report, $\mathbf{W_1}$
- the wage rate reported by the Sardars, $\mathbf{W_2}$
- the wage rate reported by the workers themselves, $\mathbf{W_3}$.

It was possible to calculate some estimates of the productivity from the same set of variables and compare it to the productivity expected as reported in earlier reports and the work norm survey. These are referred to later as $\mathbf{P_1}$, the productivity implied from the progress report, $\mathbf{P_2}$, the productivity implied from the reports of the Sardars, and $\mathbf{P_A}$, the productivity expected from other studies.

The next crucial step was to estimate the total number of person days utilized in the project. These are estimates of the total amount of work needed to complete the project given the amount of work they have been able to accomplish so far. In practice, these estimates are calculated by projecting the data obtained from the progress report ($\mathbf{L_1E}$) and the Sardars ($\mathbf{L_2E}$).

We then calculated the following alternative estimates of total allocation with the variables in hand:

- W_1*L_1E -- From Progress report
- W_2*L_2E --From Sardars
- W_3*L_2E -- From workers and Sardars

The comparison of these estimates reflects alternative estimates of leakage. Once again, it very important to stress that these are estimates and they depend on data that is very hard to collect and might have even been altered. Therefore, the estimates of leakage obtained might not be exact, but may only reflect the minimum level of leakage actually existing, since this is what is reported in the documents. One way to improve these estimates is to obtain an accurate and unbiased measurement of the actual work done. This is a very sensitive piece of information that should be collected with the supervision of the institution in charge of the management by carrying out correct estimates of the status of the work site before the project starts and also at the end of the project.

We carried out several field visits in five sites, and interviewed several people to collect the information needed. The list of people interviewed is reported in Table 12. Since the same type of projects were not available in each of the Thanas, we decided to concentrate on LGED and Water Board projects that were selected from a list of WFP operating schemes in the area. The selection of schemes was not made with any particular criteria. However, since it was not random, it cannot in any way be considered to be representative of the leakage in Bangladesh. Nevertheless, the results obtained are indicative of the situation prevailing in the sector.

EFFECTIVENESS OF THE RD PROGRAM

It was clear from the beginning of this exercise that collecting the information necessary to carry out this investigation was not going to be easy (see Box 2 on locating a project site in the field). The field investigator had to gain the confidence of the people

interviewed to collect data on the number of workers, amount of earth moved and wages received. Suspicion was very high and we realized that some of the information obtained from some of the sources might not be reliable. Therefore, our intent is to compare the information available from different sources, that is project documents, implementing agencies in the field, PICs and Sardars, and the workers themselves

Amount of Leakage in the RD Project

The methodology presented earlier was used for the data collected to estimate the leakage existing in the RD sector.

Box 2 — Looking For an RD Project Site

Food For Work projects are earth-moving projects. They are financed by donors or by GOB so that workers are paid in wheat, or at least the larger portion of their salaries are supposed to be paid in wheat. Sites of earth moving projects are usually very easy to recognize while driving through the rural areas of Bangladesh. Usually there is a small road or an embankment under construction and a large number of workers coming and going from the pits to the road carrying baskets full of earth. Some people sit around taking a short break, while others continue digging in the pits or carrying the dirt. While we were looking for one of the projects in our sample, we found an earth-moving project and were quite certain that we had found the site we were looking for. After we had asked several workers, we started to doubt whether it was a food for work project since the workers were unaware. Everybody was paid in cash and none of the workers had any idea that the project was financed by WFP and that they were supposed to receive wages only in wheat. We found a PIC Chairperson, an engineer from the Water Board and even a signboard clearly explaining the details of the project not very far from the place of our first inquiry.

The Projects. The detailed list of project sites and their main characteristics are listed in Table 12. Four of the schemes were road construction projects implemented by the LGED. The fifth project was an embankment project implemented by the Water Board department. In the case of LGED, 30 percent of the resources were made available in cash. We converted all the cash in wheat amounts using the conversion rate of Tk. 7.5 per kg for the purpose of our investigation. We used this conversion rate because the

Table 12 — Summary Information on Project Sites Visited

Site	Site 1	Site 2	Site 3	Site 4	Site 5
Organization	LGED	BWDB	LGED	LGED	LGED
Type of work	Road	Embankment	Road	Road	Road
Size of project (km)	3.8	9.1	5.4	1.3	4.0
Targeted earth moved (m^3)	70,330	282,567	36,339	29,520	60,650
Total allotment in MT	237.4	895.0	98.6	89.4	151.3
Type of allotment	30% cash	All grain	30% cash	30% cash	30% cash
No. of Visits	2	2	2	2	2

Source: Project documents and RD investigation FMRSP-IFPRI, March-April, 1998.

Note: Total allotment does not include amount for turfing (the act of placing grass turf on newly erected roads to protect the earth from washing away).

Table 13 — Wage Rate Received by Workers: Participant Questionnaire

Site	Site 1	Site 2	Site 3	Site 4[1]	Site 5
Average number of working days	17.0	21.7	18.6	35.7	45.0[2]
Average working hours per day	7.0	9.2	12.0	10.2	10.0
Amount received per day in cash (Tk)		64.2		60.3	20.3
Amount received per day in wheat[3] (Kg)	5.4		8.2		3.9
Local price of wheat (Tk)	8.5	8.5	8.7	8.4	8.1
Total wage in cash (converted)[4] (Tk)	*45.9*		*71.3*	*0.0*	62.2
Total wage in wheat (@7.5 Tk/kg)[5] (kg)	5.4	8.4	8.2	7.3	7.3
Total wage rate per 10 hours (Tk/day)	65.6	69.8	59.5	59.1	62.2
Local agriculture wage rate (Tk/day)	60.0	90.0	70.0	55.5	46.5
No of respondents	2	6	6	19	22
Location of workers	Local	outside	local	Both	Local
Workers receive mostly	Both	cash	wheat	Both	Cash
Amount of wheat sold	None	100%	44%	53%	43%

Source: Workers questionnaire, rapid appraisal and author's calculations

Notes:

1. Data in Site 4 is questionable. Laborers reported receiving only wheat and exaggerated the amount received.
2. As reported by workers and Sardars at the time of the field survey
3. Wheat received may not include cash. Not all workers receive the same type of payment
4. Wheat has been converted into cash using its opportunity cost calculated as the market price reported and is reported in italics
5. Most of the time laborers receive the equivalent of wheat in cash valued at 7.5 Tk per kg

same rate was used at the time of designing the project. This is the conversion rate that was used by project managers to reimburse workers who were paid in cash instead of wheat.

Most of the selected schemes were not in very poor areas as classified by the WFP/GOB poverty map. According to the classification, each Thana have been grouped in one of four categories with respect to its level of poverty: four indicates a very high level of poverty, three denotes a high level, two indicates a moderate level of poverty and one denotes a low level. Two of the projects selected were in better off Thanas; the others were in Thanas classified as having moderate, high and very high levels of poverty.

Characteristics of the workers. The characteristics and provenance of the workers engaged in the projects and their remuneration varied from area to area (see Table 13). The main difference was between labor hired locally and recruited from outside the area and the type of remuneration received. It was more likely that Sardars hired labor from outside the project area in areas where the local wage rate for agricultural activities is higher. In our study, outside workers were found in three of the five sites. In the site where the wage rate was the highest among the five surveyed, all laborers were hired from outside and some came from as far as 200 km away. In the other two sites, outside workers represented 20 percent and 60 percent of the total work force.

This might be an indication that the number of migratory workers has increased over the years. This hypothesis is confirmed by results of the Work Norm Survey (1997). In fact, the Work Norm Survey found migratory workers present in 16 of the 71 sites they investigated.

Working hours and productivity. Working hours ranged from a minimum of 7 hours to a maximum of 13 hours a day. Outside workers worked for longer hours and were more likely to be paid directly in cash (Table A3).

Estimates of the productivity have been derived from the analysis of the progress report and the Sardars' reports, which have been reported in Tables 14 and 15 respectively. The analysis of the productivity can give an indication of the quality of the reports from the Sardars. We found that the estimated implicit productivity, calculated using the progress reports, is equal to 2.3 m^3 per day, ranging from a minimum of 1.9 m^3 per person per day to a maximum of 4 m^3 per person per day. The estimate of productivity obtained using the Sardars' reports is higher and is equal to 2.7 m^3 per person per day.

Wage payment. The general impression was that most workers did not know the actual rate they were supposed to receive. While most of the signboards showed the rates in m^3 and kg, most of the workers interviewed (80 percent) cited wage rates of 42 or 43 kg per 1,000 cft (equivalent to 1.4 and 1.5 kg/m^3). On the other hand they all had a very good idea of the price of wheat in the market and the prevailing agricultural wage rate in the area. It also appears that when the workers were hired by the Sardars, the workers negotiated a remuneration that included a minimum wage rate and additional remuneration to be received after the measurements were made.

When workers were brought in from other areas, some advanced payment was offered to them for two reasons. One reason was so that the workers' families could sustain themselves in the workers absence (since the worker is often the main earner in the family). The other reason was so that the workers could sustain themselves prior to getting their wages at the end of the month since they had no savings.

Table 14 — Implicit Wages Rates and Productivity from Progress Reports

Site	Site 1	Site 2	Site 3	Site 4	Site 5
Earth moved (m^3)	57,061	197,906	22,000	21,254	65,876
Total person days reported	29,840	98,268	5,480	9,465	18,090
Total wheat allotment(MT)	142	589	40	47	119
Working days	86	70	82	91	67
Average number of workers per day	347.0	1,403.8	66.8	104.0	270.0
Earth moved per person/day (Productivity) (m^3)	1.9	2.0	4.0	2.2	3.6
Wheat per m^3 (kg)	2.5	3.0	1.8	2.2	1.8
Wheat per person per day (kg)	4.8	6.0	7.3	5.0	6.6
Average salary norm (kg/m^3)	2.1	2.1	2.1	2.1	2.1
Wheat to be received (kg)	*3.9*	*4.1*	*8.2*	*4.6*	*7.5*
Wheat received (official est.) (kg)	5.5	6.0	4.5	5.0	6.5
Month of Report	April	March	April	March	May

Source: Progress Reports and Author's calculations
Notes: The values in Italics have been calculated.

Table 15 — Implicit Wages Rates and Productivity According to Sardars

Site	Site 1	Site 2	Site 3	Site 4	Site 5
Earth moved (m^3)	6,578	7,837	2,269	12,719	7,576
Person days	3,388	2,491	521	5,096	2,449
Wheat Disbursed (@ 7.5 Tk) (Tk)	32,438	173,260	*31,850*	208,689	85,922
Wheat Disbursed (@ 7.5 Tk) (kg)	17,351	*23,101*	4,247	*27,825*	*11,456*
Working days	17	30	14	22	12
Averages					
Persons per day	21.0	20.8	12.7	30.3	18.9
Earth moved per person/day (Productivity) (m^3)	1.9	3.1	4.4	2.5	3.1
Wheat per m^3	2.6	2.9	1.9	2.2	1.5
Cash per m^3 (kg)	19.8	22.1	14.0	16.4	11.3
Average Salary Norm (kg/m^3)	2.1	2.1	2.1	2.1	2.1
Expected Payment for work done (kg)	4.1	6.6	9.1	5.2	6.5
Expected Payment for work done (Tk)	*30.6*	49.6	68.6	39.3	48.7
Actually Payment (@7.5 Tk/kg) (Tk)	*38.5*	69.6	61.1	41.0	35.1
Actually Payment (@7.5 Tk/kg) (kg)	5.1	*9.3*	8.2	5.5	4.7
Number of Work Groups Interviewed	11	4	3	7	11

Source: RD Preliminary investigation
Note: The values in italics have been calculated.

It was also not uncommon for the workers to receive only an advance of the payment and they often had to wait until the measurements where taken, and sometimes

until the end of the project to receive the final portion of their payment. This aspect of the labor arrangement makes it rather difficult to compare the actual wage rate received. Therefore, some of the comparisons between wage rates and amount of work to be done have to be taken with caution.

In order to compare the data across sites and for different forms of payment we used uniform conversion rates. When we had to evaluate the wages received by the workers (Table 13) we convert the cash given as wages into wheat. In this case, the conversion rate used was 7.5 Tk/kg, which was the official conversion rate between wheat and cash. This was also the conversion rate used by the Sardars to pay the workers. In this case we found that wage rates received by the workers varied between 5.4 kg./day to 8.4 kg./day.

To compare the wage rates with the current agricultural wage rates, we converted the wages received in wheat into cash using the local price of wheat at the time of the investigation. This turned out to be between 8.1 Tk./kg and 8.7 Tk./kg. To further standardize the wages for the amount of work done, we used a common working day of 10 hours. This was selected on the assumption that most agricultural workers are required to work 10 hours a day. The resulting wage rates varied between 59.1 Tk./day to 69.8 Tk./day (Table 13). The highest wage rate was recorded in the site where the agricultural wage rate was the highest among those surveyed. The rates reported are comparable with those reported in the Work Norm Study (1997). They found that in 1997, when the conversion rate of the wheat was 7 Tk./kg, the average wage rate was 45 Tk./day, if paid in cash and 6 kg of wheat if paid in kind.

Estimates of Leakage. The data collected and variables that have been calculated for each of the sites have been reported in Table A2. Using this table, we can make comparisons between the productivity, the wage rates and the extrapolated number of workers reported from each source. Estimates of leakage vary depending on the source of data used. Even if the progress reports are used the amount disbursed is less than the

amount allocated. What usually happens is that the project managers use the grain received to pay the workers for the work done and then at the end of the project, when they receive the last payment, they divert it to other uses.

As the number of sites is small, we believe that it is interesting to go through each of the sites in turn and analyze them individually using the information available from project documents, Sardars and workers, and the results of the interviews. The results of the interviews have been reported in Table A3. Looking at the first site we notice that reported productivity is lower than expected. The wage rate reported by the Sardar and the workers are higher than that reported by the progress report. Therefore, using the estimates of the Sardar, which appear to be fairly reliable and were confirmed by the accountant the amount of leakage in this site is at least 17 percent.

Workers received more money than reported in the progress report in the second site, but less than the amount reported by the Sardar. The main difference between the two reports is the productivity values. In this case we expected higher wages because the PIC hired a contractor to carry out the work. He paid the contractor 31.8 Tk./m^3 (equivalent to 4.2 kg/ m^3). The contractor was supposed to pay the workers 26 Tk./m^3 (equivalent to 3.5 kg/ m^3). The workers are receiving higher wages, but not as high as expected from the report of the accountant. If we use the Sardar's report and the wage rate reported by the workers, we can derive the amount of leakage to be at least 16 percent.

Actual productivity was reported to be higher than expected in the third site and the wage rates reported by the workers and the Sardars was the same. Therefore, the estimate of leakage is at least 30 percent. The situations in the fourth and fifth sites are very similar. The workers reported higher wages than the Sardars. Using the estimates of the number of man-days from the Sardars reports, we derived leakage of 37 percent and 39 percent respectively.

The reports of each individual site have been summed together in Table 16 to create a summary table that gives an estimate of the amount of leakage in all the sites.

Table 16 — Estimated Amount of Leakage from Five Sites

	Project Document	Performance Report	Sardar Interview	Worker Survey
(1) Work Done ('000 cubic meters of earth)	479,406	364,097	36,979	
(2) Wheat Paid (MT)	1,472	937	84	
(3) Wage Rate (kg wheat/m^3) = (row 2)/(row 1)*1000	3.1	2.6	2.3	
(4) Labor (man-days)		161,182	13,939	
(5) Wage Rate (kg/man-day) = (row 2)/(row 4)*1000		5.8	6.0	6.0
(6) Implied Productivity (m^3./man-day) =(row 1)/(row 4)		2.3	2.7	
(7) Total Labor to be Used (est.) = (row 4)*(row 1_{PD})/(row 1)		212,570	180,710	180,710
(8) Total Wages to be Paid (est.) = (row 7)*(row 5) MT	1,471	1,233	1,088	1,084
Percent of Project Allocation	100.0%	83.8%	74.0%	73.7%

Source: Author's Calculation

Here we reported the values of the work done (Row 1), wheat paid (Row 2) and the number of man-days (Row 4) as reported in the progress reports and the Sardars' reports. In addition, we included the wage rate reported by the workers. Among other things, we calculated the wage rate (Row 5) and the total number of man-days to be used to complete the project. Finally, we estimated the total amount of resources, the total wages to be paid (Row 8).

The resulting leakage is between 16 percent, if we use the progress reports, and 26 percent, if we use the Sardars' reports. The main difference between these reports is the wage rate per m^3 (2.6 kg/m^3 vs. 2.3 kg/m^3) and the number of man-days (212,570 vs. 180,711) reported. As a result, the implicit productivity is higher in the reports from the Sardars (2.7 m^3/day vs 2.3 m^3/day). It is clear that the data from the Sardars is more credible. On the other hand, the wage rate reported by the workers is, on average, equal to the values reported by the Sardars. Therefore, we can conclude that the estimates of leakage in the amount of 26 percent are plausible.

Amount of Payments Received in Cash

Evidence from our sites is overwhelming that most of the transactions take place in cash. Only in two of the sites did the amount of wheat disbursed remotely resemble the amounts that were supposed to be distributed. In the three other sites, the PIC and the Sardars monetized the wheat and the contract was made directly in cash. These findings are in line with the Work Norm Survey (1997), where they found that 50 percent of the workers received payments in cash instead of in kind.

We believe that one of the reasons of our finding was because the price of grain in the market was higher than the official exchange rate and people involved in the management of the project had the incentive to sell the grain at a higher price. Therefore, there was an incentive for the people involved to monetize the grain and pay workers in cash.

Allocation of the Wheat

Given the fact that grain was received in only a few sites, we were not able to estimate the average amount of grain consumed. The evidence from the Work Norm Survey (1997) is that 50 percent of the workers receiving payments in kind end up selling the grain in the market. This result is not surprising given that the amount of grain each worker is supposed to receive for payment is very large. Each worker is entitled to receive between four to six kg of wheat per day. If they are paid every two weeks, workers will receive approximately 75 kg of wheat (one and a half sack). This is a total of 150 kg of wheat per month and is approximately twice the amount that a family of five would be able to consume in a month even if each member consumed a pound of wheat a day.

CONCLUSIONS

One key conclusion is that leakage exists and it is sizable. The main source of leakage is the underestimation of the amount of work done and the overestimation of the resources needed and used to carry out that work. It is not clear that individual workers were paid less than the work norm. There is evidence that in most cases, the wage paid to workers was slightly higher than the average work norm of 2.1 kg/m^3 (Wage Norm Survey, 1997). The Sardars, instead, did not receive any additional compensation for their management. They received payment for the total amount of work done by the group as a whole. It is not clear if they had paid the workers less than stipulated.

The wage received by workers and the amount of leakage depended to a significant extent on the economic conditions prevailing in the area. When local wage rates for agricultural work were high, it was more difficult to find people willing to work at the stipulated wage. Workers were hired from other areas and were often given a higher remuneration. This created the need for generating additional resources for paying the higher rates.

As long as the wage rates are stipulated in wheat, the remuneration received by the workers depends on the price of wheat in the market. Moreover, when project managers exchanged wheat for cash and pay the workers in cash, workers lose out because the managers sell the wheat at the highest possible price but still pay the workers using the conversion rate stipulated in project documents.

Our field discussions revealed that the amount of grain delivered from the LSDs to the PICs is five percent less than sanctioned in several cases. Moreover, we often heard that rent is paid at different stages of the set up, the supervision and implementation of the projects and to assure the delivery of funds. The fees paid to government officials might be equal to 5 to 15 percent of the total allocation for the project.

Due to the widespread use of cash instead of wheat and the resale of the same by the workers, the actual amount of wheat consumed by the intended beneficiaries is actually very little.

The progress reports can be improved and used as a monitoring tool. If the implicit wage and productivity rates are calculated, it is possible to have a clearer idea of what is happening in the project. In fact, in three out of the five sites, the productivity reported was lower than expected. This is an indication that the number of people reported working on the project had been inflated. In another case it was very high, reflecting a serious reporting problem. The implicit wage rate in two cases was also different from the amount officially reported and was in line with the productivity, showing the possible existence of underpayment of the workers.

We believe that the results we found are reliable. If we assume that the amount of work reported is correct, then the number of workers can only be altered if the productivity is underestimated. In order to do this, the wage rate has to be reported at a lower level. These types of inconsistencies can be found very easily. If the estimate of the work done were available, then the amount of work required could be calculated very easily along with the amount of leakage. The use of the Sardars reports to check the leakage is a reliable alternative, since the reported amount of work will determine the amount of payment sanctioned for the workers.

4. LESSONS AND RECOMMENDATIONS

From the analysis of the VGD and the RD programs and the conclusions presented above, we can derive a set of lessons and suggestions that might improve the effectiveness of these programs.

RECOMMENDATIONS FOR VGD

The allocation of cards to the Thanas and UPs should be viewed as part of a safety net package available at the local level. The amount of resources need at the local level depends on the level of poverty in the area and the availability of other poverty alleviation programs. Some special provisions should be made for Thanas that have larger numbers of people who need to receive food assistance.

The practice of reserving some funds for giving small amounts of grain to poor women who are not participating in the VGD program is very common. This practice is not bad per se, but if accepted, the process should become transparent. One option is to work in collaboration with other food alleviation channels to provide short-term forms of assistance to women that are not participating in the program. Another option is to reduce the size of the rations and to increase the number of participants.

As a result of our investigation, it was clear that everybody, from the TNO to the beneficiaries, was concerned with the quantity and the quality of the grain delivered. It should be possible to insure that all the grain allocated to the VGD program is actually delivered from the LSD and that the quality of grain is good. One solution to this problem, mentioned by one of the TNOs interviewed, is to provide a special bag prepared in advance with the WFP seal on it. If the quality of the grain is not good, then not only will the value of the transfer be reduced, it will also be less likely that the women and their families will consume the grain. They will either sell the grain or use it as animal feed.

All the women who participated in the group discussions had very high expectations for the saving and training components. Efforts should be made to ensure that they receive this training.

RECOMMENDATIONS FOR RD

There is scope for increasing the efficiency of delivery of resources and therefore reducing the amount of leakage that take place in the implementation of the RD program. It is clear from the results of our preliminary investigation that the major source of leakage is the overestimation of the amount of work to be done. Therefore leakage can be reduced substantially if the amount of work actually done is estimated correctly. This can be achieved with a credible pre-work survey to estimate the amount of work to be done, and a similar post-work survey to estimate whether the required work has been completed.

It was also clear that workers were paid according to the prevailing wage rate in the area where the project is implemented. The PICs and the Sardars do not pay the workers according to the wage rate specified in the work norm, especially if the norms are expressed in kind and the resulting wage rates deviate from the local market conditions.

At this juncture there are two possible suggestions to improve the efficiency of RD programs:

Increase the amount of monitoring and supervision, fix local salary rates in cash equivalent, improve the quality of measurement of the work done, speed up the delivery mechanism of the funds, and pay only for the work done

More effort should be concentrated on the pre-work and post-work measurements. PICs should be given enough funds to allow them to complete the work, given the working conditions and the wage rates prevailing in the labor market. Payment should only be made for the amount of work done.

A fairly simple way to increase the quality of the monitoring is to make better use of the progress reports. Even if the actual amount of work done is not measured, analysis of the data will highlight obvious discrepancies. If the data is entered in a computer, it is possible to check the quality of the report and its reliability. If, for example, the implicit productivity reported is not too far from the norm and the wage rate reported is very different from the wage rate reported by the workers, then it is possible to deduce that some of the data is not exact and that further investigation is required. This type of monitoring can be done on a monthly basis, since the progress reports are prepared every month.

Since the government and donors incur the cost of the transfer while benefits accrue not to the targeted beneficiaries, but rather to those who have access to and sell the foodgrain, it is essential to identify and stop the possible sources of leakage. However, the process of reducing the leakage, that is, the costs of monitoring and enforcing the proper transfer, must not exceed the value of the reduction in leakage.

Ultimately, the real challenge is to decide where the projects should be located and the resources they should receive. As long as projects are allocated to areas that have a higher rate of unemployment during the dry season and require more infrastructure, it will be cheaper to build the infrastructure and employ more workers at a lower wage rate using the same amount of resources.

REFERENCES

Adato, M., L. Haddad, D. Horner, N. Ravjee, and R. Haywood. 1999. *From Works To Public Works: The Performance of Labour-Intensive Public Works in Western Cape Province, South Africa.*

Ahmed, A. U., H. E. Bouis, and S. M. Ali. 1998. *Performance of the Egyptian Food Subsidy System: Distribution, Use, Leakage, Targeting, and Cost-Effectiveness.*

Ahmed, A. U. 1993. *Food Consumption and Nutritional Effects of Targted Food Interventions in Bangladesh.* Bangladesh Food Policy Project. Dhaka. International Food Policy Research Institute.

Ahmed, A. U. 1992. *Operational Performance of the Rural Rationing Program in Bangladesh.* Working Paper on Bangladesh Number 5. Washington D.C. International Food Policy Research Institute.

Ahmed, A. U. and Y. Shams. 1994. *Nutritional Effects of Cash versus Commodity-based Public Works Programs.* Bangladesh Food Policy Project Manuscript Number 63. Dhaka. International Food Policy Research Institute.

Asaduzzaman, M. and B. Huddleston. 1983. 'An Evaluation of Management of Food for Work Programme' in *The Bangladesh Development Studies Volume XI (Numbers 1 & 2).* Dhaka. Bangladesh Institute of Development Studies.

Braun, J. von, T. Teklu, and P. Webb. 1992. *Labour-Intensive Public Works For Food Security in Africa: Past Experience and Future Potential.* International Labour Review 131 (1).

Chowdhury, O. H. 1983. 'Profile of Workers in the Food-for-Work Programme in Bangladesh' in *The Bangladesh Development Studies Volume XI (Numbers 1 & 2).* Dhaka. Bangladesh Institute of Development Studies.

Deolalikar, A. 1995. *Special Employment Programs and Poverty Alleviation.* Asian Development Review 13 (2): 50-73.

Dorosh, P. and S. Haggblade. 1996. *Filling the Gaps: Consolidating Evidence on the Design of Alternative Targeted Food Programs.* Ithaca, N. Ithaca, N.Y. Cornell University.

Dorosh, P. and S. Haggblade. 1995. *Shifting Sands: The Changing Case for Monetizing Project Food Aid in Bangladesh.* Ithaca, N.Y. Cornell University.

Hossain, M. and M. M. Akash. 1993. *Public Rural Works for Relief and Development: A Review of the Bangladesh Experience.* Working Paper on Food Subsidies Number 7. Washington D.C. International Food Policy Research Institute.

'Integrated Food Assisted Development Project, Baseline Survey of Beneficiaries of Union Parishad Vulnerable Group Development Programme 1996/97 Cycle. July 1997. Development of Women's Affairs, Ministry of Women and Children Affairs, in cooperation with the European Commission.

Nishat and Chowdhury. 1983.

Osmani and Chowdhury. 1983.

Ravallion, M. 1998. *Appraising Workfare Programs.*

Report on Work Norms and Wage Rates for Food Assisted Works in Bangladesh. Part 1 of the Report. A Study undertaken for the Government of Bangladesh. WFP, The USAID–funded CARE/ Integrated Food for Development Project, and European Union/ Integrated Food Assisted Development Project. Dhaka.18 May 1997.

Subbarao, K., A. Bonnerjee, J. Braithwaite, S. Carhvalho, K. Ezemenari, C. Graham, and A. Thompson. 1997. *Safety Net Programs and Poverty Reduction: Lessons from Cross-Country Experience*. Washington, D.C. The World Bank.

Working Group on Targeted Food Interventions (WGTFI). 1994. *Options for Targeting Food Interventions in Bangladesh*. Dhaka. International Food Policy Research Institute.

World Food Programme (WFP). 1989. *Brief on Leakage*. Dhaka. Mimeo.

World Food Programme. 1997. Bangladesh. 'Food Aid Reduces Poverty'. WFP, Bangladesh.

World Food Programme. May 1997. 'Study of Labour Wage Rates, Productivity Norms and Income/ Expenditure Patterns in 1997 - Work Season under FFWP' Dhaka. Bangladesh.

APPENDICES

Appendix A — The VGD Implementation and Selection Committees

Thana VGD Implementation Committee

1. Thana Nirbahi Officer (TNO)	: Chairperson
2. Thana Project Implementation Officer (PIO)	: Member Secretary
3. Thana Women Affairs Officer (if existing)	: Member
4. Thana-level Officer of Development Package Providing NGO	: Member
5. Relief Officer (Tag Officer)	: Member
6. Local High School Teacher (near the Thana Sadar)	: Member
7. Lady Teacher of the Higher Secondary Girls School (respective Thana)	: Member
8. Neutral /Impartial honorable women representatives of the Thana	: Member

Union VGD Women's Selection Committee

1. Officer in Charge of Relief (respective Union)	: Chairperson
2. Headmaster of the Local Primary School (priority is given to proximity to UP office and females)	: Member
3. Representative of Development Package provider NGOs (BRAC, RDSS)	: Member
4. Block Supervisor	: Member
5. Union Family Planning Officer	: Member
6. Field Officer of BRDB	: Member
7. Neutral (Impartial) honorable woman representative	: Member
8. All GLEW Union workers	: Member
9. Union Parishad Secretary	: Member Secretary

Appendix Table A1 — Summary Results of the VGD Interviews and Group Discussions

Part A — Interviews with Officials

Union Parishad	Sarifpur	Mahmudpur Adra		Nayanagar	Chawra Bargacha	Sonaray	Kanjapur	Barthi	Ghatmajhi	Jaudhi
Officials Interviewed										
TNO		Selection is fair. Start credit and training. Need close supervision			Chairperson sold wheat to manage carrying cost		No. of cards reduced. Second time list was prepared by new UP Chairperson			
PIO	Selection is not 100% fair. Request to provide 30kg wheat bags with WFP seal and to reduce political pressure								UP Chairperson sold part of the wheat to pay for the carrying costs	
UP Chairperson	He complained against the local Awami league leader who allegedly took Tk. 500 from each VGD women.	Selection was done before UP election, so selection was fair	Selection fair; received 522kg less than 5,730kg delivered to the LSD	No. of cards reduced from previous year	No of cards increased by 100	100 new cards were assigned by the new UP Chairperson			No. of cards reduced, facing many problem, hard to manage carrying costs	
UP Secretary	He could not say anything about selection process and wheat distribution									
UP member							Do not know anything		Selection was fair	No. of cards reduced 50%

Part B — Group Discussions

Union Parishad	Sarifpur	Mahmudpur	Adra	Nayanagar	Chawra Bargacha	Sonaray	Kanjapur	Barthi	Ghatmajhi	Jaudhi
Subject Discussed										
Fairness of program	Fair	Fair	Fair	Some eligible women are excluded	Fair	Fair			Fair to VGD women, not fair to non-VGD women	Fair
Type of Training desired	Livestock and poultry	Livestock and poultry	Livestock and poultry	Any suitable training	Handicrafts, sewing, poultry				Nursery, poultry	Nursery, poultry
Desired use of savings	Dowry for girls, cattle or education		Rickshaw or chicken or cattle	Cattle, start vegetable gardening	Chick or cattle					This will help them in future.
Grain distribution										
Quantity First month	24-25kg	22-25kg,	24.5kg sold all	Could not say about amount sold	22-27kg	25-27kg	No wheat distributed			12-15kg wheat 8-12kg rice
Quality	Bad	Bad	Bad	Bad	Bad	Bad				Good
Quantity Second month	25-27kg	24-26kg	27kg	27kg	25kg	25-28kg			Two months wheat was given at the same time	22-27kg
Quality	Good	Good	Good	Good	Good	Good				Bad
Allocation of cash derived from sale of grain	Repaying loans, buying rice	Repaying loans, house making or buying rice	House making or buying rice	Opening savings account, repaying loans	Sold all wheat the first time (cause of bad quality)	Opening savings account				Sold wheat when they need cash
Improvement of program	Want actual amount, end to card sharing system	Prefer rice and credit to generate new income	Want rice	Want all 30 kg and more cards	Want job opportunities	Want job opportunities and credit				No more sharing, more amount and credit
Comments	Some women got VGD cards for 2nd time, some are shairing cards								Some have to share cards, some have cards for the 2nd time	

Source: Field Reports

Appendix Table A2 — Analysis of Leakage

	Project Document	Performance Report	Sardar Interview	Worker Survey
Site 1				
(1) Work Done ('000 cubic meters earth)	70,330.0	57,061.0	6,578.0	
(2) Wheat Paid (MT)	237.4	142.0	17.4	
(3) Wage Rate (kg wheat/m^3) = (row 2)/(row 1)*1000	3.4	2.5	2.6	
(4) Labor (man-days)		29,840.0	3,382.0	
(5) Wage Rate (kg/man-day) = (row 2)/(row 4)*1000		4.8	5.1	5.4
(6) Implied Productivity (m^3/man-day) =(row 1)/(row 4)		1.9	1.9	
(7) Total Labor to be Used (est.) = (row 4)*(row 1_{PD})/(row 1)		36,779.0	36,159.3	36,779.0
(8) Total Wages to be Paid (est.) = (row 7)*(row 5) MT	237.4	175.0	185.5	198.6
Percent of Project Allocation	100.0%	73.7%	78.1%	83.7%
Site 2				
(1) Work Done ('000 cubic meters earth)	282,567	197,906	7,837	
(2) Wheat Paid (MT)	895	589	23	
(3) Wage Rate (kg wheat/ m^3) = (row 2)/(row 1)*1000	3.2	3.0	2.9	
(4) Labor (man-days)		98,268	2,491	
(5) Wage Rate (kg/man-day) = (row 2)/(row 4)*1000		6.0	9.3	8.4
(6) Implied Productivity (m^3/man-day) =(row 1)/(row 4)		2.0	3.1	
(7) Total Labor to be Used (est.) = (row 4)*(row 1_{PD})/(row 1)		140,733.8	89,814.3	89,814.3
(8) Total Wages to be Paid (est.) = (row 7)*(row 5) MT	895.0	841.0	832.9	754.4
Percent of Project Allocation	100.0%	94.0%	93.1%	84.3%
Site 3				
(1) Work Done ('000 cubic meters earth)	36,339	22,000	2,269	
(2) Wheat Paid (MT)	99	40	4	
(3) Wage Rate (kg wheat/m^3) = (row 2)/(row 1)*1000	2.7	1.8	1.9	
(4) Labor (man-days)		5,480	521	
(5) Wage Rate (kg/man-day) = (row 2)/(row 4)*1000		7.3	8.2	8.2
(6) Implied Productivity (m^3/man-day) =(row 1)/(row 4)		4.0	4.4	
(7) Total Labor to be Used (est.) = (row 4)*(row 1_{PD})/(row 1)		9,051.6	8,345.1	8,345.1
(8) Total Wages to be Paid (est.) = (row 7)*(row 5) MT	98.6	66.1	68.0	68.4
Percent of Project Allocation	100.0%	67.0%	69.0%	69.4%
Site 4				
(1) Work Done ('000 cubic meters earth)	29,520	21,254	12,719	
(2) Wheat Paid (MT)	89	47	28	
(3) Wage Rate (kg wheat/m^3) = (row 2)/(row 1)*1000	3.0	2.2	2.2	
(4) Labor (man-days)		9,465	5,096	
(5) Wage Rate (kg/man-day) = (row 2)/(row 4)*1000		5.0	5.5	7.3
(6) Implied Productivity (m^3/man-day) =(row 1)/(row 4)		2.2	2.5	
(7) Total Labor to be Used (est.) = (row 4)*(row 1_{PD})/(row 1)		13,144.8	11,827.6	11,827.6
(8) Total Wages to be Paid (est.) = (row 7)*(row 5) MT	89.3	65.3	64.6	86.3
Percent of Project Allocation	100.0%	73.1%	72.3%	96.7%
Site 5				
(1) Work Done ('000 cubic meters earth)	60,650	65,876	7,576	
(2) Wheat Paid (MT)	151	119	11	
(3) Wage Rate (kg wheat/m^3) = (row 2)/(row 1)*1000	2.5	1.8	1.5	
(4) Labor (man-days)		18,090	2,449	
(5) Wage Rate (kg/man-day) = (row 2)/(row 4)*1000		6.6	4.7	7.3
(6) Implied Productivity (m^3/man-day) =(row 1)/(row 4)		3.6	3.1	
(7) Total Labor to be Used (est.) = (row 4)*(row 1_{PD})/(row 1)		16,654.9	19,605.5	19,605.5
(8) Total Wages to be Paid (est.) = (row 7)*(row 5) MT	151.4	109.6	91.7	143.1
Percent of Project Allocation	100.0%	72.40%	60.6%	94.5%

Source: Author's Calculations

Note: Sardars interview figures for for Rows 1 and 2 reflect the sample size. These numbers were multiplied to generate figures for other rows for comparative purposes.

Appendix Table A3 — Summary Results of Field Interviews

	Site 1	Site 2	Site 3	Site 4	Site 5
PICs	3	10	1	1	2
No. of work groups	10	10	10	10	3
Workers per group	7 to 30	13 to 35	10 to 15	20 to 60	15 to 40
Hours worked per day	7 to 9 hours/day	13 hours/day	12.5 to 13 hours/day	Local workers: 6 hours/day Migrant workers: 13 hours/day	12 to 13 hours/day
Local wage rate					
Without food	60 Taka	90 Taka	70 Taka	70 Taka	60 Taka
With food	40 Taka plus 3 Meals	60 Taka plus 3 meals	50 Taka plus 3 meals	50 Taka plus 3 meals	40 Taka plus 3 meals
Type of labor	All local	All migrant	80% local (8 of 10 groups)	40% local (4 of 10 groups)	All local
Type of wage received	Workers received mostly wheat.	Workers received payment in cash	Workers receive payment in wheat for earthwork and 50 Tk/day for earth dressing???	Local labor received cash and kind and migrated labor received only cash.	Workers received mostly cash. A few received wheat
Workers wages as reported by the accountant	2.1 to 2.8 kg/m^3	Contractor Tk. 31.8 (4.2kg)/m^3 Workers Tk. 26.5 (3.5kg)/m^3	1.8 to 2.5kg/m^3	12 to 17 Tk/m^3 1.6 to 2.3 kg/m^3	12 to 17 Tk/m^3 1.6 to 2.3 kg/m^3
Leakage					
Rents	Necessary to receive last DO (disbursed order).	15% of cost for Govt. Officials	Necessary to receive last DO (disbursed order)	Tk 1,200 given by PIC Chairperson to LSD	Necessary to receive last DO (disbursed order).
Loss from the LSD per sack; Leakage	5 to 7 kg less in each sack: 5.9 to 8.2%	5 kg less in each sack: 8.2%	3.2 kg less in each sack 3.7% lost	3 to 5 kg less in each sack; 3.5% to 5.9%	2 to 3 kg less in each sack: 2.4% to 3.5% lost

Source: Field Reports